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The Resources Agency
DEPARTMENT OF FISH AND GAME

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ANNUAL REPORT
VAN ARSDALE FISHERIES STATION, 1990-91

by

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Region 3, Inland Fisheries

Inland Fisheries
Administrative Report No. 92-13

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ABSTRACT

This report describes the operation of Van Arsdale Fisheries Station (Snow Mountain Station), Mendocino County, California, for the 1990-91 season. Chinook salmon, Oncorhynchus tshawytscha, and steelhead trout, O. mykiss, counts have been made at this station since 1933.

During the season, no chinook salmon and only 31 steelhead were trapped.

Numbers of fish trapped, Eel River morning water temperatures, Eel River flows, and weather conditions were recorded.

^{1/} Inland Fisheries Administrative Report No. 92-13.
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Department of Fish and Game, 1416 Ninth Street, Sacramento,
CA 95814

INTRODUCTION

Van Arsdale Fisheries Station is located approximately 25 miles northeast of the town of Ukiah, in Mendocino County, California. It is on the Eel River at Capehorn Dam, which impounds Van Arsdale Reservoir. The Station was constructed by Snow Mountain Light and Power Company in 1907 and subsequently sold to Pacific Gas and Electric Company (PG&E) in 1930. A fish ladder located on Capehorn Dam is maintained by PG&E; the fisheries station, grounds, and facilities are maintained by the Department of Fish and Game.

METHODS OF OPERATION

The upstream migrant fish trap was placed into operation on January 16, 1991 and remained in continuous operation until May 13, 1991. The trap was checked daily, usually between 0700 and 0900 hours. Eel River flow was measured at a PG&E gauging station (E-11) located immediately downstream of Capehorn Dam. Eel River water temperature and general weather condition was also recorded (Appendix Tables 1 and 2).

1990-91 CHINOOK SALMON TRAPPING

No chinook salmon were trapped in the 1990-91 season.

Lack of rain during the early winter and resulting low river flow conditions prevented fish from reaching the upper river. Surveys done in the lower river recorded very low fish numbers.

1990-91 STEELHEAD TRAPPING

The first steelhead was trapped on February 12, 1991 and the last on April 4, 1991. A total of 31 steelhead (5 males, 25 females, and 1 sub-adult) was trapped (Appendix Table 1).

No fish were spawned at the Station this season. All trapped fish were released upstream after data on species, sex, fork length, and hatchery fin clips was collected.

Additional information concerning steelhead movements and tagging, and fin clips may be found in a report by Steiner Environmental Consultants (S.E.C.) entitled: Potter Valley Project, Effects of Operations on Anadromous Salmonids.

YEARLING STEELHEAD IMPRINTING

Two groups of yearling steelhead were held for imprinting this season. The first group of 27,650 fish (7 fish/lb) arrived on April 6 and 7, 1991, and were released on April 12, 1991. This group was marked with a left ventral fin-clip.

The second group of 14,280 fish @ 4.2 fish/lb. arrived on April 19 and 20, 1991 and were released on April 24, 1991. This group was marked with a right ventral fin-clip.

Both groups of fish were hatched and reared at Mad River Hatchery prior to imprinting.

APPENDIX TABLE 1 (continued)

<u>Date</u>	<u>Chinook</u>			<u>Steelhead</u>			<u>Flows (CFS)</u>	<u>Weather</u>
	<u>Male</u>	<u>Female</u>	<u>Grilse</u>	<u>Male</u>	<u>Female</u>	<u>Sub-adults</u>		
Feb.								
1							6	overcast
2							10	rain
3							8	rain
4							7	overcast
5							10	overcast
6							6	clear
7							6	clear
8							6	overcast
9							6	clear
10							6	clouds
11							6	overcast
12					2		6	clouds
13							6	clear
14							6	clear
15							6	clouds
16							6	clouds
17							6	clear
18							6	clear
19							6	clear
20							6	clear
21							6	overcast
22							6	overcast
23			Station unattended					
24			Station unattended					
25							6	clear
26							6	clear
27							6	overcast
28							6	rain
Monthly Totals	0	0	0	0	2	0		

APPENDIX TABLE 1 (continued)

<u>Date</u>	<u>Chinook</u>		<u>Steelhead</u>			<u>Flows (CFS)</u>	<u>Weather</u>
	<u>Male</u>	<u>Female</u>	<u>Grilse</u>	<u>Male</u>	<u>Female</u>		
Mar.							
1						6	rain
2				2	14	102	rain
3						1,576	rain
4				2	3	1,241	rain
5						309	clear
6						16	clouds
7						7	clear
8						7	clear
9						7	overcast
10				1	1	13	rain
11						7	clear
12						110	rain
13						329	clear
14					2	110	clear
15						203	clear
16						239	overcast
17						339	rain
18						339	clouds
19					3	286	clouds
20						286	rain
21						272	clear
22						255	clear
23						362	rain
24						430	overcast
25						1,208	overcast
26						1,281	snow
27						1,208	clear
28						896	clear
29						947	clear
30						467	clear
31						735	clear
Monthly Totals	0	0	0	5	23	0	

APPENDIX TABLE 1 (continued)

<u>Date</u>	<u>Chinook</u>			<u>Steelhead</u>			<u>Flows (CFS)</u>	<u>Weather</u>
	<u>Male</u>	<u>Female</u>	<u>Griiise</u>	<u>Male</u>	<u>Female</u>	<u>Sub-adults</u>		
Apr.								
1							840	overcast
2							783	overcast
3							724	clear
4						1	690	clear
5							690	overcast
6							724	clouds
7							724	clear
8							861	clear
9							827	clear
10							783	clear
11							230	clear
12							57	clear
13							45	clear
14							34	clear
15							26	rain
16							23	overcast
17							21	clear
18							21	clear
19							21	clear
20							21	rain
21							23	overcast
22							24	overcast
23							24	overcast
24							23	rain
25								
26								
27								
28								
29								
30								
31								
Monthly Totals	0	0	0	0	0	1		
Season Totals	0	0	0	5	25	1		

APPENDIX TABLE 2.

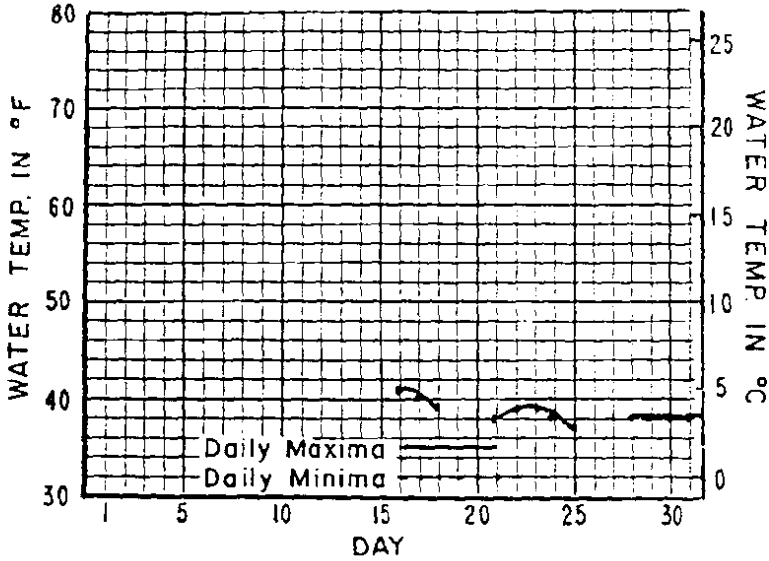
Annual Steelhead and Chinook Counts, Van Arsdale Fisheries Station, 1933-34 to 1990-91.

<u>Season</u>	<u>Chinook</u>	<u>Steelhead</u>	<u>Season</u>	<u>Chinook</u>	<u>Steelhead</u>
1933-34		3,247	1960-61		1,130
1934-35		2,225	1961-62		1,693
1935-36		6,310	1962-63	9	2,030
1936-37		6,861	1963-64	3	846
1937-38		3,413	1964-65	108	921
1938-39		4,786	1965-66	94	423
1939-40		3,990	1966-67	119	534
1940-41		2,228	1967-68		531
1941-42	no record		1968-69		340
1942-43	no record		1969-70	15	719
1943-44	no record		1970-71	47	1,863
1945-46		9,528	1971-72		696
1945-46		5,054	1972-73		586
1946-47*	917	4,409	1973-74	12	1,040
1947-48		178	1974-75	1	1,126
1948-49		2,433	1975-76	2	1,077
1949-50	no record		1976-77		39
1950-51	55	1,091	1977-78	23	590
1951-52		5,444	1978-79	5	106
1952-53		2,197	1979-80		87
1953-54		2,590	1980-81		1,966
1954-55		6,131	1981-82	175	646
1955-56		3,719	1982-83	9	369
1956-57		4,109	1983-84	26	1,534
1957-58		5,151	1984-85	153	1,980
1958-59		3,335	1985-86	961	1,196
1959-60		2,206	1986-87	1,754	1,952
			1987-88	1,080	2,206
			1988-89	328	331
			1989-90	6	691
			1990-91		31

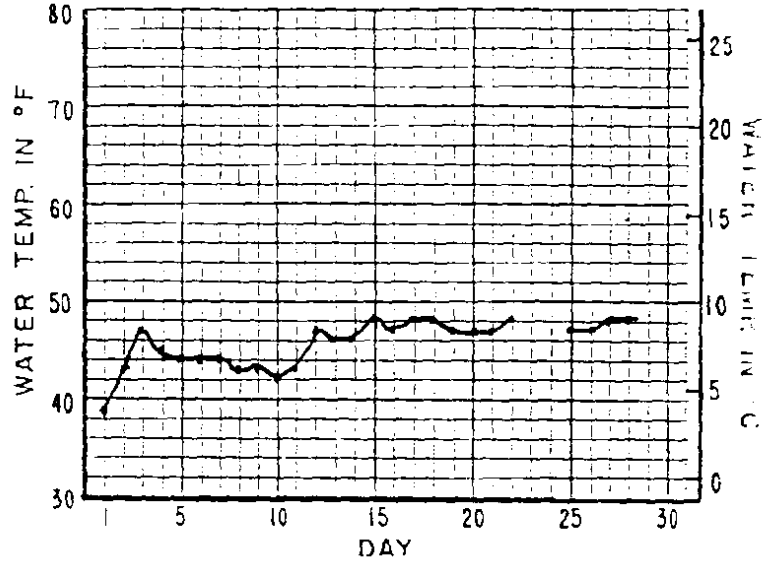
*Forty-seven coho salmon were trapped this season.

DAILY WATER TEMPERATURES BY MONTH

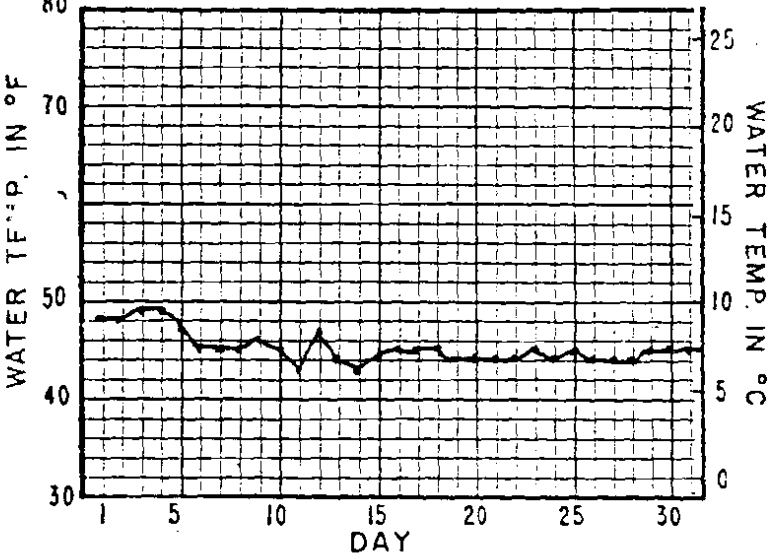
JANUARY 1991



FEBRUARY 1991



MARCH 1991



APRIL 1991

